Implementation of 4-Bit Two Step ADC.

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Abstract—A Two step Flash converter or Parallel,Feed-Forward ADC is separated into two complete Flash ADC with Feed-Forward circuitry.Which has a Flash ADC with Resistor string DAC along with a Sample and Hold circuit.The advantage of this architecture are that the comparators is greatly reduced from $(2^N - 1) to 2(2^N/2 - 1) comparators.$

Index Terms—Two-step ADC,Comparator,Residual Amplifier

I. REFERENCE CIRCUIT DETAILS

- The Figure Shows that A two Step Flash ADC has Two Separate Flash ADC Sub-Circuits.Which are a fine Conversion ADC(LSB ADC) and a Coarse Conversion ADC with Identical Circuitry.And The Sample and Hold Block,Digital-to-Analog Converter,Subtractor and Residue Amplifier.

- In the first Stage the MSB bits are Calculated and the This Bits are passed to a DAC to Convert it in into Analog Voltage.

- The Subtractor is Used to Calculate the Difference In Input Voltage and MSB voltage to Compute LSB bits.But to As the Signal is low to Operate and Requires a High Sensitive and Linear ADC for LSB.

- So,To avoid This a $2^{(N/2)} residue Amplifier which Regula$

II. REFERENCES

Implementation of 4-Bit Two Step Flash ADC Using 180nm Technology

CMOS Circuit Design,Layout,and Simulation. R.Jacob Baker.